

WHAT IS CLAIMED IS:

- 1        1. A wine fermentation device for fermenting wine, and skins, seeds and stems  
2 which form a cap, which comprises:
  - 3              a tank having cylindrical walls, an axis and a bottom;
  - 4              at least one drain at or near said tank bottom; and
  - 5              at least one impeller, each impeller having a plurality of blades to radially and  
6 axially move said cap in said tank during fermentation and to blend said cap with liquid to  
7 permit draining of said cap (or pomace) through said drain.
- 2        2. A wine fermentation device as set forth in Claim 1 including at least one  
interior baffle extending from said cylindrical tank walls toward said axis.
- 3        3. A wine fermentation device as set forth in Claim 2 including three said interior  
baffles.
- 4        4. A wine fermentation device as set forth in Claim 1 having two said impellers,  
one near said bottom and one spaced axially therefrom.
- 5        5. A wine fermentation device as set forth in Claim 1 wherein each said impeller  
has three blades.

1           6. A wine fermentation device as set forth in Claim 1 wherein each said blade  
2 has a 45° pitch.

1           7. A wine fermentation device as set forth in Claim 1 wherein said tank bottom  
2 is not perpendicular to said axis but is sloped in relation thereto.

1           8. A wine fermentation device as set forth in Claim 1 including a temperature  
2 control jacket to control temperature of said wine in said tank and a temperature gauge.

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4           9. A wine fermentation device as set forth in Claim 1 including a shaft for said  
5 impeller axially aligned in said tank and a motor to drive said shaft.

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7           10. A wine fermentation device as set forth in Claim 1 wherein each said drain  
8 includes a valve.

9  
10          11. A wine fermentation device as set forth in Claim 1 wherein said tank includes  
11 a top to form a closed vessel.

12  
13          12. A process for wine cap management for fermenting wine and skins, seeds and  
14 stems which forms a cap, which process comprises:

15                 fermenting said wine and said cap in a tank having cylindrical walls, an axis,  
16 and a bottom;

5                         moving said wine and said cap radially and axially by periodically rotating an  
6     impeller having an axial shaft within said cylindrical tank; and  
7                         assisting axial flow of said wine with at least one baffle extending from said  
8     cylindrical walls toward said axis.

1                         13. A process for wine cap management as set forth in Claim 12 which includes  
2     the additional steps of adding yeast and sugar to said fermenting wine or must to promote  
3     fermentation.

1                         14. A process of wine cap management as set forth in Claim 12 which includes the  
2     additional step of controlling the temperature of said wine in said tank through a  
3     temperature jacket on the walls of said cylindrical tank or on said at least one baffle.

1                         15. A process of wine cap management as set forth in Claim 12 wherein said  
2     impeller shaft is driven by a motor.

1                         16. A process of wine cap management as set forth in Claim 12 including two said  
2     impellers extending from said axial shaft.

1                         17. A wine pomace removal process for wine and skins, seeds and stems forming  
2     a cap fermented in a tank having cylindrical walls, an axis, and a bottom, which process  
3     comprises:

4                   draining a majority of said wine from said tank;  
5                   agitating and blending said cap with liquid within said tank to create a pomace  
6                   slurry; and  
7                   draining off said pomace slurry through a drain at or near said bottom of said  
8                   tank.

1           18. A wine pomace removal process as set forth in Claim 17 wherein said drain  
2 includes a valve.

19. A wine pomace removal process as set forth in Claim 17 wherein said agitating and blending step is accomplished through an impeller having a plurality of blades which are rotated by an axial shaft driven by a motor.

20. A wine pomace removal process as set forth in Claim 19 including two said impellers, one located near said tank bottom to agitate and blend said cap.

1           21. A wine pomace removal process as set forth in Claim 17 wherein said bottom  
2           of said tank is sloped with respect to said axis of said tank.